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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/642,801	08/21/2000	Richard D. Gunlock	P00-3222	8628

25235 7590 01/29/2004  
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EXAMINER

YUSSUF, SAJID

ART UNIT	PAPER NUMBER
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2141

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application N .

09/642,801

Applicant(s)

GUNLOCK ET AL

Examin r

Sajid A Yussuf

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-- The MAILING DATE of this communication appears on the cover sheet with th correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/21/2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

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### **DETAILED ACTION**

#### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).  
The certified copy has been received.

#### ***Drawings***

The drawings are objected to because numbering of parts are not readable nor are the flowcharts. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

#### ***Claim Objections***

Claims 1,2,6 objected to because of the following informalities:

- a. As per claim 1, Lines 12,16, 26 applicant states "with **the** at least" or "of the at least." Consider removing "the" to make claims understandable. Examiner has referenced a few instances of the informalities. Applicant is advised to check all further occurrences of such informalities.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodeheffer et al. (US Patent No. 5,260,945 and Rodeheffer hereinafter) in view of Schmidt et al. (US Patent Application Publication No. 2002/0034178 and Schmidt hereinafter).

1. As per claims 1,9 Rodeheffer discloses a memory system contains machine readable instructions comprising instructions for (i.e., software or code): determining a status associated with the at least one port, the status capable of having at least an active (i.e., working), a normal, (i.e., working) a probationary (i.e., Skeptic or WAIT), and a failed (i.e., broken) value, (See Column 2 Lines 47-67 & Column 3 Lines 1-24); when the status has a failed (i.e., broken) value, of detecting a repair associated with the at least one port (i.e., link) and when repair is detected advancing the status to a value selected from the group consisting of active (i.e., working) and probationary (i.e., skeptic or WAIT) status, (See Column 3 Lines 3-26); detecting when the port (i.e., link) operates without error for a predetermined period (i.e., time) and thereupon advancing the status from the probationary (i.e., skeptic or WAIT) value to a value selected from the group consisting of active (i.e., working) and normal (i.e., working), (See Column 5 Lines 50-67 and Column 6 Lines 1-27); and preferentially routing exchanges over a port (i.e., link) of the at least one port having a status value selected from the group of active (i.e., working) and normal (i.e., working) when a port having such status exists and a target node of the exchange is reachable over that port.

However, Rodeheffer does not explicitly teach a node for a storage area network comprising at least one processor; at least one port for connection to a storage area network coupled to the at least one processor; and a memory system coupled to the at least one processor;

Schmidt teaches a node for a storage area network, (See Paragraph 0138 Lines 1-7) comprising at least one processor (See entire Paragraph 0003); at least one port for

connection to a storage area network (i.e., fibre channel) coupled to the at least one processor (i.e., workstation or supercomputer); (See entire Paragraph 0007) and a memory system coupled to the at least one processor; wherein a workstation or supercomputer is interpreted as having a processor (See entire Paragraph 0007).

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify the teaching of Rodeheffer with the teachings of Schmidt to include a node for a storage area network comprising at least one processor; at least one port for connection to a storage area network coupled to the at least one processor; and a memory system coupled to the at least one processor; with the motivation to provide for additional address capacity such that a new address is created within the switch itself for routing data within the switch... in the event of a port failure, affected frames can be redirected from the failed port by employing the described translation and mapping operations, (See Schmidt Entire Paragraph 0012 & 0014).

2. As per claims 2,10 Rodeheffer discloses the claimed invention as described above.

However, Rodeheffer does not explicitly teach the port is a fibre channel N-port, L\_port, or NL\_port.

Schmidt teaches the port is a fibre channel N-port, L\_port, or NL\_port, (See Entire Paragraph 0007).

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify the teaching of Rodeheffer with the teachings of Schmidt to include a fibre channel N-port, L\_port, or NL\_port, with the motivation to provide for additional address capacity such that a new address is created within the switch itself for routing data within the switch... in the event of a port failure, affected frames can be redirected from the failed port by employing the described translation and mapping operations, (See Schmidt Entire Paragraph 0012 & 0014).

3. As per claims 3,11 Rodeheffer teaches the claimed invention as described in claims 1-2 & 9-10 above and furthermore discloses the memory system contains machine readable instructions further comprising instructions for: determining that a port having an associated status of probationary has encountered excessive errors, and when said excessive errors are detected for changing that status to failed, (See Column 4 Lines 10-48).
4. As per claims 4,12 Rodeheffer teaches the claimed invention as described in claims 1-3 & 9-11 above and furthermore discloses the machine readable instructions for determining that a port (i.e., link) having an associated status of probationary (i.e., skeptic or WAIT) has encountered excessive errors includes instructions of ignoring errors detected within a predetermined period of time of the port seeing a network login attempt made by a second node of the network, (See Column 5 Lines 26-61).
5. As per claims 5,13 Rodeheffer teaches the claimed invention as described in claims 1-4 & 9-12 above and furthermore discloses the memory system contains machine readable instructions further comprising instructions for taking laser diodes (i.e., link cable) of a port of the at least one port offline when status associated with that port is changed to failed, and for placing those laser diodes (i.e., link cable) online when said status is changed to a status selected from the group consisting of active (i.e., working), normal (i.e., working), and probationary (i.e., skeptic or WAIT), (See Column 4 Lines 60-67 & Column 5 Lines 1-25).
6. As per claims 6,14 Rodeheffer teaches the claimed invention as described in claims 1-5 & 9-13 above and furthermore discloses the memory system contains machine readable instructions further comprising instructions for conducting login attempts (i.e., power on) over each port (i.e., link) of the at least one port (i.e., link), for determining target nodes reachable through each port (i.e., link), and for recording in the memory system identities of target nodes reachable through each port, (See Column 5 Lines 12-61).

7. As per claims 7,15 Rodeheffer teaches the claimed invention as described in claims 1-6 & 9-14 above and furthermore discloses the memory system contains machine readable instructions further comprising instructions for promoting status associated with a port (i.e., Link) from probationary (i.e., skeptic or WAIT) to a value selected from the group consisting of normal (i.e., working) and active (i.e., working) when an exchange to a particular target node of the target nodes is ending and that target node is not reachable through any port (i.e., Link) already having an associated status selected from the group consisting of normal (i.e., working) and active (i.e., working), (See Column 7 Lines 14-42 & Column 3 Lines 65-67 & Column 4 Lines 1-9).
8. As per claims 8,16 Rodeheffer teaches the claimed invention as described in claims 1-7 & 9-15 above and furthermore discloses the memory system contains machine readable instructions further comprising instructions for testing a port (i.e., link) for repair if that port has failed (i.e., broken) status, an exchange to a particular target node of the target nodes is pending, and the particular target node is not reachable through any other port already having an associated status selected from the group consisting of probationary (i.e., skeptic or WAIT), normal (i.e., working) and active (i.e., working), (See Column 6 Lines 51-67 and Column 7 Lines 1-13).

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. Malladi et al. (US Patent No. 5,638,518) discloses a node loop core for implementing transmission protocol in fibre channel;

B. Sicola et al. (US Patent No. 6,643,795) discloses a controller based bi-directional remote copy system with storage site failover capability;

C. Pothapragada et al. (US Patent No. 6,389,432) discloses intelligent virtual volume access;

D. Cowan et al. (US Patent No. 6,457,050) discloses a system and method for dynamically restoring communications within a network;

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E. Singhal et al. (US Patent No. 6,658,478) discloses a data storage system;

F. Galand et al. (US Patent No. 6,038,212) discloses a method and system for optimizing the connection set up time in high-speed communication networks for recovering from network failure;

G. Croslin et al. (US Patent No. 6,327,669) discloses a centralized restoration of a network using preferred routing tables to dynamically build an available preferred restoral route; and

H. Grover et al. (US Patent No. 6,377,543) discloses a path restoration of networks;


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sajid A Yussuf whose telephone number is (703) 305-8752. The examiner can normally be reached on Monday-Thursday 7:30-5:00 PM and Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (703) 305-4003. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

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Sajid Yussuf  
Patent Examiner  
Technology center 2100  
21 January 2004

  
**RUPAL DHARIA**  
**SUPERVISORY PATENT EXAMINER**